



# The GENESIS platform, its Distribution, and Web Services

Stephen Rank, David Nutter, Janet Lavery, and Cornelia Boldyreff

# The GENESIS Project

- IST-funded EU project (Durham, Rome, Salerno, Sannio, MoMA, SchlumbergerSema, LogicDIS)
- Open-source platform
- Support co-operation and communication among software engineers

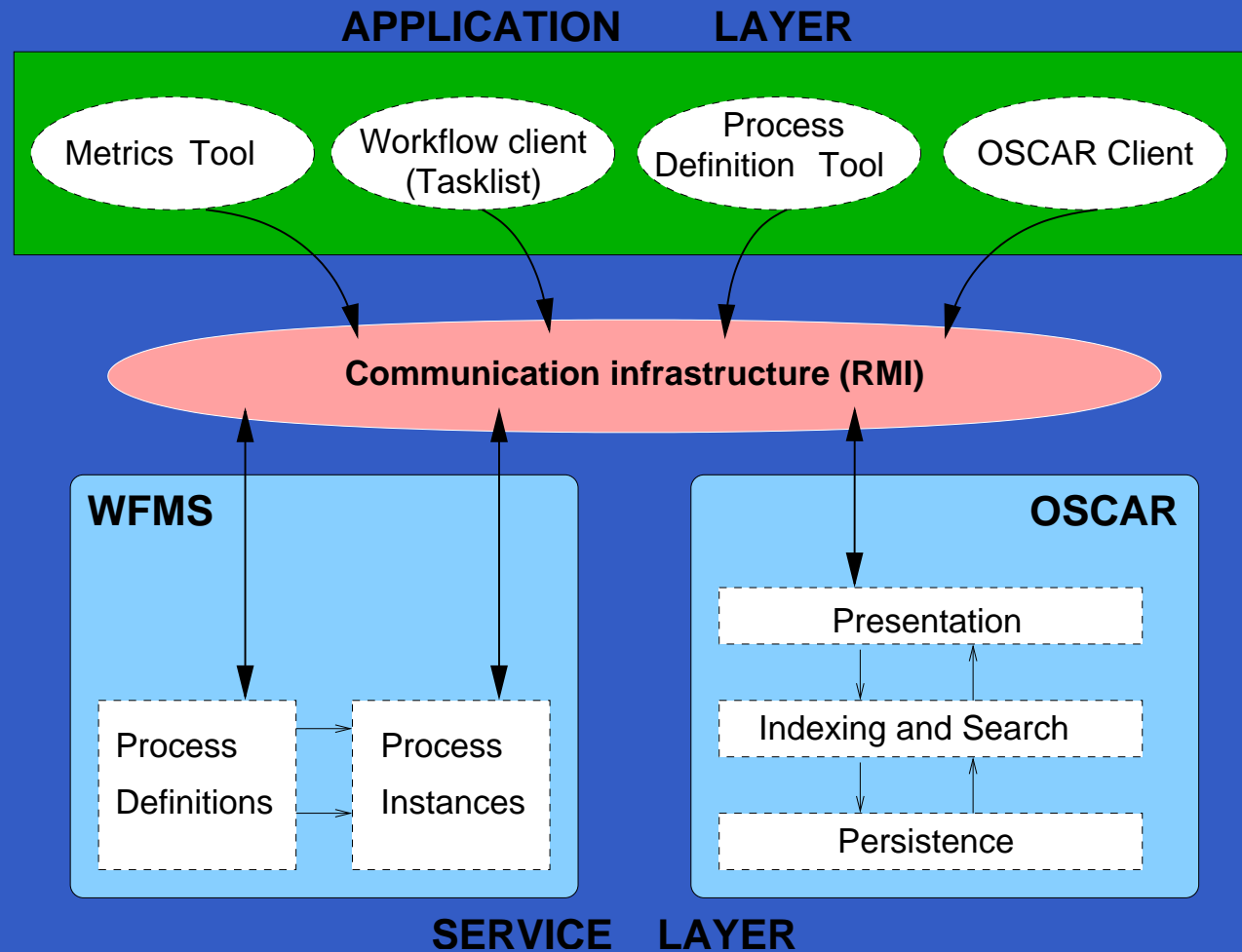
# The GENESIS Platform

- Loosely-coupled tools
- Process-aware, but process-neutral (aims to be “non-invasive”)
- Distributed, but centralised
- Main components: *Workflow*, *Artefact*, and *Resource Management Systems*

# The Durham Contribution: OSCAR

- Artefact management system
- “Everything is an artefact”
- Artefacts as (XML) documents and (Java) objects
- Artefact relationships help provide traceability
- Use artefact store as repository for “active” and “historical” projects; useful for evolution

# Original Architecture



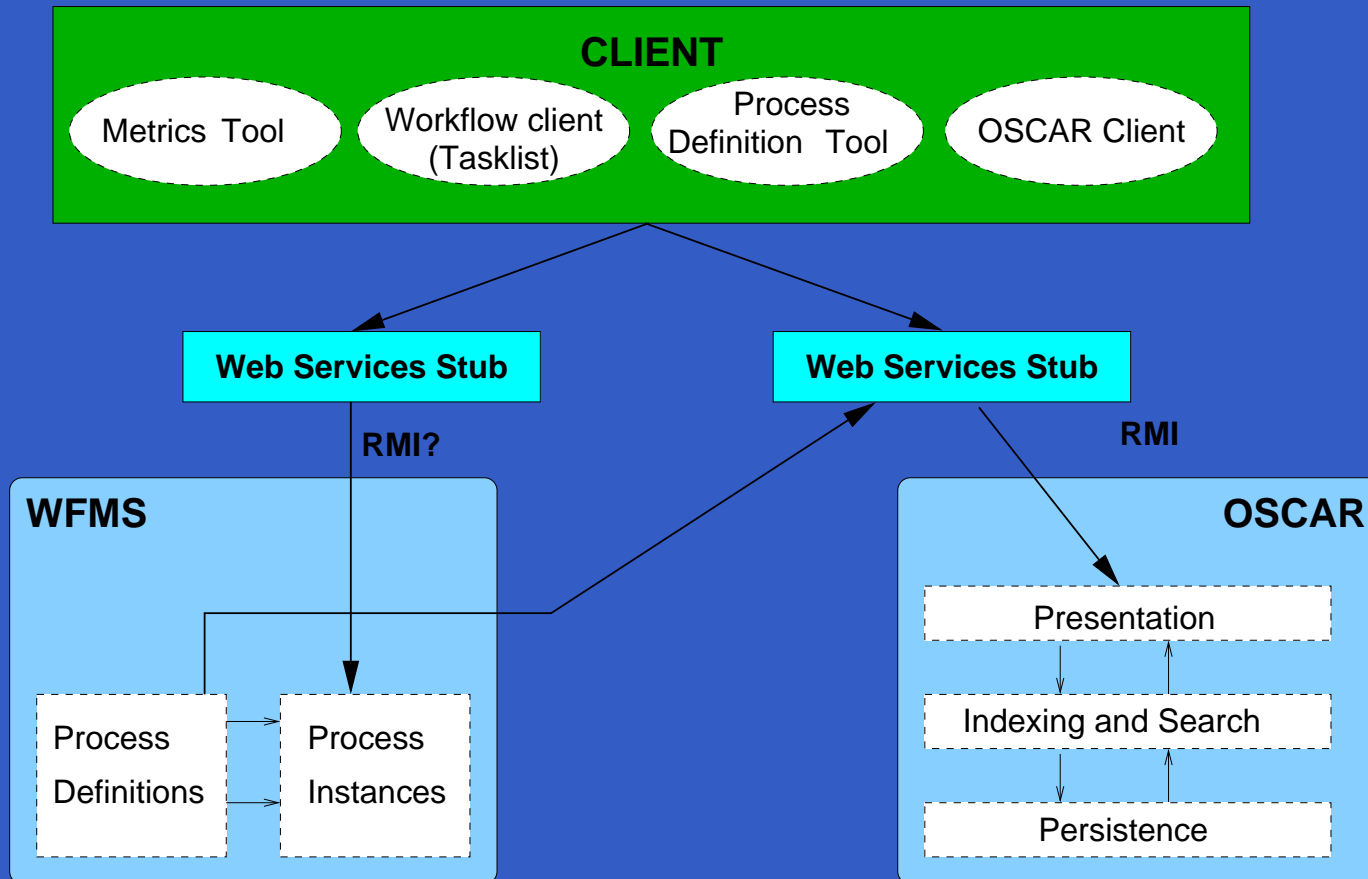
# Problems With Original Architecture

- Tight coupling: want to be able to change components
- Communication across firewalls problematic: restricted to local distribution

# Restructuring Aims

- Break tight coupling
- Enable incremental adoption
- Enable broad (*i.e.*, global) distribution

# New Architecture





# Issues: Pros and Cons

- + Distribution
- + Decomposition: no longer restricted to exactly one OSCAR for each platform.
  - Extra network and processor burden
- ? Efficiency (translations, *etc.*)

# Further Work

- Evaluation with industrial partners
- Other applications of the tools: e-learning, collaborative design, scientific collaboration for the Grid
- Studies of software development processes and practices
- “Real” distributed SCM